

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently Amended)** Titanium dioxide fine particles, wherein the titanium dioxide is doped with at least two elements members-selected from the group consisting of carbon, hydrogen, nitrogen and sulfur are doped in titanium dioxide wherein a titanium dioxide content of the titanium dioxide fine particles is 80% by weight or more and wherein, if the titanium dioxide is doped with nitrogen, the nitrogen comprises 700 ppm by weight or more.
2. **(Currently Amended)** Titanium dioxide fine particles, wherein the titanium dioxide is doped with 700 ppm by weight or more of nitrogen and with at least one element member selected from the group consisting of carbon, hydrogen and sulfur are doped in titanium dioxide and wherein a titanium dioxide content of the titanium dioxide fine particles is 80% by weight or more.
3. **(Currently Amended)** Titanium dioxide fine particles, wherein the titanium dioxide is doped with carbon, hydrogen and 700 ppm by weight or more of nitrogen are doped in titanium dioxide and wherein a titanium dioxide content of the titanium dioxide fine particles is 80% by weight or more.
4. **(Currently Amended)** Titanium dioxide fine particles according to Claim [[1]] 2, wherein the concentration of doped nitrogen is 700 ppm by weight or more and 10,000 ppm by weight or less.
5. **(Currently Amended)** Titanium dioxide fine particles according to Claim [[1]] 2, wherein the titanium dioxide fine particles comprise doped nitrogen is-bonded to titanium by of titanium-dioxide as Ti-N-O bonds or Ti-N-Ti bonds.
6. **(Original)** Titanium dioxide fine particles according to Claim 5, wherein the Ti-N-Ti bonds are the majority of the nitrogen-titanium bonds.

7. **(Currently Amended)** Titanium dioxide fine particles according to Claim [[1]] 2, wherein doped nitrogen ~~desorbsis-desorbed~~ as N₂ ~~on by~~-heating the titanium dioxide fine particles ~~and showsto-show~~-an N₂ desorption peak at a temperature of 700°C or more.

8. **(Currently Amended)** Titanium dioxide fine particles according to Claim [[1]] 2, wherein doped hydrogen ~~desorbsis-desorbed~~ as H₂ ~~on by~~-heating the titanium dioxide fine particles ~~and showsto-show~~-an H₂ desorption peak at a temperature of 700°C or more.

9. **(Currently Amended)** Titanium dioxide fine particles according to Claim [[1]] 2, wherein doped carbon ~~desorbsis-desorbed~~ as CO₂ ~~on by~~-heating the titanium dioxide fine particles ~~and showsto-show~~-a CO₂ desorption peak at a temperature of 700°C or more.

10. **(Currently Amended)** Titanium dioxide fine particles according to Claim [[1]] 2, wherein a component having a m/e ratio between the mass number (m) and ionic charge number (e) of 68 ~~desorbs onis-desorbed by~~ heating the fine particles ~~and shows a~~ desorption peak at a temperature of the component of 700°C or more.

11. **(Currently Amended)** Titanium dioxide fine particles, wherein the titanium dioxide is doped with two kinds or more kinds of anions including at least carbon and nitrogen wherein the titanium dioxide is doped with at least 700 ppm by weight or more of nitrogen relative to titanium oxide and wherein of the titanium dioxide fine particles is 80% by weight or more-carbon are doped in titanium dioxide and wherein a titanium dioxide content of the titanium dioxide fine particles is 80% by weight or more.

12. **(Cancelled)**

13. **(Currently Amended)** Titanium dioxide fine particles according to Claim 11, wherein ~~the concentration of doped nitrogen is 700 ppm by weight or more relative to titanium dioxide, and~~ the concentration of doped carbon is 50 ppm by weight or more relative to titanium dioxide.

14. **(Currently Amended)** Titanium dioxide fine particles, wherein the titanium dioxide is doped with 700 ppm by weight or more to and 10,000 ppm by weight or less of nitrogen anions and further doped with carbon anions in a concentration of 1/30 or more to

~~and~~ 1/3 or less of the concentration of nitrogen are doped in titanium dioxide and wherein a titanium dioxide content of the titanium dioxide fine particles is 80% by weight or more.

15. **(Currently Amended)** The titanium dioxide fine particles according to Claim ~~[[1]]~~ 2, wherein the titanium dioxide particles comprise particles having a particle diameter of thereof is 1 μm or less.

16. **(Currently Amended)** The titanium dioxide fine particles according to Claim ~~[[1]]~~ 2, wherein titanium dioxide fine particles comprise particles having an ~~each particle has~~ a-ellipsoidal shape with a major axis length of 10 nm or more and 60 nm or less.

17. **(Currently Amended)** Titanium dioxide fine particles according to Claim 2, wherein an IR spectrum measured by Fourier transform IR spectroscopy exhibits absorption peaks at $340 \pm 10 \text{ cm}^{-1}$ and $580 \pm 50 \text{ cm}^{-1}$.

18. **(Currently Amended)** Titanium dioxide fine particles according to Claim ~~[[1]]~~ 2, wherein the titanium dioxide fine particles exhibit an isopropanol oxidation activity is ~~exhibited~~ under visible light irradiation with a wavelength of 400 nm or more and 600 nm or less.

19. **(Currently Amended)** Titanium dioxide fine particles according to Claim ~~[[1,]]~~ 2 produced by a process

~~wherein an acetone gas is formed in a concentration of 500 ppm or more using the titanium dioxide fine particles by the steps comprising:~~

placing 0.2 g of the titanium dioxide fine particles as a sample formed into a uniform 10 cm square layer in a gas bag with a volume of 1 liter;

filling an isopropanol gas in the bag and by adjusting an ~~the~~ initial concentration to 1,500 ppm \pm 150 ppm; and

irradiating a light from a UV-shielded fluorescent lamp to the sample at an intensity of 0.5 W/cm^2 at an wavelength of 420 nm for 1 hour.

20. **(Currently Amended)** A method of using titanium ~~Titanium~~ dioxide fine particles according to Claim ~~[[1]]~~ 2, comprising:

catalyzing an oxidation reaction with the titanium dioxide fine particles by exposing the particles to visible light ~~used as a visible light activatable photocatalyst.~~

21. **(Cancelled)**

22. **(Currently Amended)** A method for producing titanium dioxide fine particles, comprising: ~~obtained by~~

~~heat-treating a material of the~~ titanium dioxide fine particles at a temperature of from ~~at~~ 500°C or more ~~to~~ and 620°C or less in an atmosphere of a nitrogen, carbon and hydrogen containing gas.

23. **(Currently Amended)** A method for producing titanium dioxide fine particles, comprising: ~~obtained by~~

~~heat-treating a material of the~~ titanium dioxide fine particles at a temperature of from ~~at~~ 500°C or more ~~to~~ and 620°C or less in an atmosphere of an NH₃ gas and carbon containing gas.

24. **(Currently Amended)** The method for producing titanium dioxide fine particles according to Claim ~~[[21]]~~ 22, wherein the step of heat treating titanium dioxide particles comprises heat treating the material of the ~~the~~ titanium dioxide fine particles comprising ~~has~~ an average particle diameter of 10 nm or less and a specific surface area of 300 m²/g or more.

25. **(Cancelled)**

26. **(Currently Amended)** A method for producing a visible light activatable photocatalyst, comprising: ~~obtained by~~

heat-treating a molded body, a sintered body or a film comprising 80% by weight of titanium dioxide a temperatures of from at-500°C or more to and-620°C or less in an atmosphere of a nitrogen, carbon and hydrogen containing gas.

27. **(Currently Amended)** A method for producing a visible light activatable photocatalyst, comprising: obtained by

heat-treating a molded body, a sintered body or a film comprising 80% by weight of titanium dioxide at a temperature of from 500°C or more to and-620°C or less in an atmosphere of an NH_3 gas and a carbon containing gas.